

Application No. 10/798,175
Amendment dated November 11, 2005
Reply to Office Action of August 15, 2005

REMARKS

Status Of Application

Claims 3 and 4 are pending in the application; the status of the claims is as follows:

Claims 3 and 4 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 1,005,980 to Katzinger ("Katzinger").

The acknowledgement, in the Office Action, of a claim for foreign priority under 35 U.S.C. § 119(a)-(d), and that the certified copy of the priority document has been received, is noted with appreciation.

The indication, in the Office Action, that the Examiner has no objections to the drawings filed on March 11, 2004, is noted with appreciation.

Claim Amendments

Claims 3 and 4 have been amended to more clearly describe the invention. These changes do not introduce any new matter.

Claims 15, 16, 17, and 18 have been added. These new claims do not introduce any new matter.

35 U.S.C. § 103(a) Rejection

The rejection of claims 3 and 4 under 35 U.S.C. § 103(a), as being unpatentable over Katzinger, is respectfully traversed based on the following.

Katzinger describes preparing a metal sheet for welding by forming welding spot protuberances on the sheet and leaving the sheet flat. (Katzinger, col. 1, lines 9-16). Katzinger shows a die set with a curvature in the portion surrounding the area where the

protuberances are formed (8). This curvature overcomes the tendency to form hollows (lines 44-50) to provide a flat surface around the protuberances (103-112). Katzinger's method merely flattens out the area around the welding protuberance.

In contrast to the cited references, Claim 3 includes:

a first die set for forming a substantially flat and rectangular plate workpiece into a gutter-like shaped workpiece, said gutter-like shaped workpiece having a flat bottom portion, a pair of semi-circular bottom portions extending from each longitudinal side of said flat bottom portion, and a pair of leg-like side walls extending upwardly in parallel from each lateral side of said flat bottom portion and said semi-circular bottom portions, said first die set having a pair of dies with a pressing surface inclined in a longitudinal direction of said gutter-like shaped workpiece relative to a pressing surface of a second pair of dies so as to cancel elastic recovering of said gutter-like shaped workpiece when said gutter-like shaped workpiece is removed from a second die set; and
said second die set for forming a row of rack teeth on said flat bottom portion of said gutter-like shaped workpiece, said second die set providing a complementary surface to said semi-circular bottom portions.
[Emphasis Added]

In contrast to Katzinger, claim 3 involves die sets used for forming a flat workpiece into a three-dimensional workpiece. The first die set forms a "substantially flat and rectangular plate workpiece into a gutter-like shaped workpiece" having a flat bottom portion with a semi-circular bottom portion on each side. One skilled in the art would not consult Katzinger to solve the problems encountered in forming a three-dimensional workpiece because Katzinger merely teaches how to maintain flatness. There is nothing in Katzinger that would suggest that the techniques shown in that reference are useful for anything other than forming protuberances on a flat workpiece. In addition, the second die set forms a row of rack teeth on the flat bottom portion of the gutter-like shaped workpiece. Katzinger's method does not teach or suggest, for example, forming a row of rack teeth, but only a single protuberance. Thus, the cited references do not show or suggest every limitation of the claim. To support a *prima facie* case for obviousness, the

cited references, alone or in combination, must show or suggest every limitation of the claim. MPEP §2143.03. Therefore, claim 3 is not obvious over the cited references.

Also in contrast to the cited references, Claim 4 includes:

a first die set for forming a substantially flat and rectangular plate workpiece into a gutter-like shaped workpiece, said gutter-like shaped workpiece having a flat bottom portion, a pair of semi-circular bottom portions extending from each longitudinal side of said flat bottom portion, and a pair of leg-like side walls extending upwardly in parallel from each lateral side of said flat bottom portion and said semi-circular bottom portions; and

a second die set for forming a row of rack teeth on said flat bottom portion of said gutter-like shaped workpiece, said second die set providing a complementary surface to said row of rack teeth formed on said flat bottom portion and said second die set including a first pair of dies and a second pair of dies having a difference in pressing angle suitable to cancel longitudinal elastic recovering of said gutter-like shaped workpiece when said gutter-like shaped workpiece is removed from said second die set.

In contrast to Katzinger, claim 4 involves die sets used for forming a flat workpiece into a three-dimensional workpiece. The first die set forms a “substantially flat and rectangular plate workpiece into a gutter-like shaped workpiece” having a flat bottom portion with a semi-circular bottom portion on each side. The second die set forms a row of rack teeth on the flat bottom portion of the gutter-like shaped workpiece. As noted above, nothing in Katzinger suggests any technique that would be useful in forming a gutter-like shaped workpiece.

In claim 4, the second die set provides a complementary surface to the row of rack teeth itself, as opposed to the area around the protuberances, as in Katzinger. The Office Action alleges that having “dies with a complimentary [sic] shape to accommodate a profile of a part of the work not subject to the tooth forming . . . would be an obvious mechanical expedient to one skilled in the art.” However, Katzinger addresses cupping in a flat surface surrounding a protuberance. There is nothing in the reference that suggests that this technique would be useful except in that circumstance. The formation of rack

teeth involves no surrounding flat surface as in Katzinger. One skilled in the art would not consult Katzinger to prevent deformation of a flat portion of the piece when the piece in question does not include any flat surfaces. Thus, the cited references do not show or suggest every limitation of claim 4 and do not support a *prima facie* case of obviousness of claim 4. Therefore, claim 4 is patentably distinct from the cited references.

Accordingly, it is respectfully requested that the rejection of claims 3 and 4 under 35 U.S.C. § 103(a) as being unpatentable over Katzinger, be reconsidered and withdrawn.

New Claims 15 - 18

New claim 15 recites, *inter alia*:

a third step for forming said gutter-like shaped workpiece into a hollow shape by bending said leg-like side walls by butting edges of said leg-like side walls to each other....

As discussed above, Katzinger teaches how to keep a metal sheet flat when forming protuberances on the sheet. The method in claim 15 forms the workpiece into a hollow shape. One skilled in the art would not consult the technique of Katzinger for maintaining flatness in forming a workpiece that has no flat surfaces. The cited references do not anticipate or make obvious claim 15, and thus claim 15 is considered in condition for allowance.

New claim 16 recites, *inter alia*:

a third step for forming said gutter-like shaped workpiece into a hollow shape by bending said leg-like side walls by butting edges of said leg-like side walls to each other....

As discussed above, Katzinger teaches how to keep a metal sheet flat when forming protuberances on the sheet. The method in claim 16 forms the workpiece into a hollow shape. One skilled in the art would not consult the technique of Katzinger for

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maintaining flatness in forming a workpiece that has no flat surfaces. The cited references do not anticipate or make obvious claim 16, and thus claim 16 is considered in condition for allowance.

New claim 17 recites:

The series of die sets according to claim 3, wherein said gutter-like shaped workpiece is formed into a hollow shape by bending said leg-like side walls by butting edges of said leg-like side walls to each other.

Claim 17 depends from and contains all the limitations of claim 3, and thus it is allowable for at least the same reasons that claim 3 is allowable.

New claim 18 recites:

The series of die sets according to claim 4, wherein said gutter-like shaped workpiece is formed into a hollow shape by bending said leg-like side walls by butting edges of said leg-like side walls to each other.

Claim 18 depends from and contains all the limitations of claim 4, and thus it is allowable for at least the same reasons that claim 4 is allowable.

CONCLUSION

Wherefore, in view of the foregoing amendments and remarks, this application is considered to be in condition for allowance, and an early reconsideration and a Notice of Allowance are earnestly solicited.

This Amendment increases the number of independent claims by 2 from 2 to 4 (3 previously paid for), does not increase the total number of claims, and does not present any multiple dependency claims. Accordingly, a Response Transmittal and Fee Authorization form authorizing the amount of \$200.00 to be charged to Sidley Austin Brown & Wood LLP's Deposit Account No. 18-1260 is enclosed herewith in duplicate. However, if the Response Transmittal and Fee Authorization form is missing, insufficient,

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or otherwise inadequate, or if a fee, other than the issue fee, is required during the pendency of this application, please charge such fee to Sidley Austin Brown & Wood LLP's Deposit Account No. 18-1260.

If an extension of time is required to enable this document to be timely filed and there is no separate Petition for Extension of Time filed herewith, this document is to be construed as also constituting a Petition for Extension of Time Under 37 C.F.R. § 1.136(a) for a period of time sufficient to enable this document to be timely filed.

Any other fee required for such Petition for Extension of Time and any other fee required by this document pursuant to 37 C.F.R. §§ 1.16 and 1.17, other than the issue fee, and not submitted herewith should be charged to Sidley Austin Brown & Wood LLP's Deposit Account No. 18-1260. Any refund should be credited to the same account.

Respectfully submitted,

By: _____


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